

To the right in Fig. n is shown a completed pulley with the cork inserts in place. Mounted on the drill jig is shown a pulley being drilled. The pulley is 4½ inches in diameter and has 42 holes, ⅛ inch deep, arranged in three rows of 14 equally spaced around the periphery. The drill jig is built in such a manner that it will take a large variety of sizes of pulleys.

At the left of the jig is shown a large drum which serves as a means of indexing the drill jig readily, and has three annular grooves on its periphery, spaced the same distance apart longitudinally as it is desired to have the holes drilled on the pulleys. Directly in the center of these grooves and spaced equidistantly around the periphery are 14 tapered index pin holes. At the base of the drill jig is an index pin (not shown), which is tapered on the end to fit the tapered index hole. At the back of this index pin is a light spring which holds it constantly in contact with the index drum.

In operation, the first row of holes is drilled. When enough pressure is applied to the drum to rotate it, the index pin, being correctly tapered, will jump out and allow the drum to revolve to the next index hole. After the first row of holes has been drilled in this manner, the second row is placed in line with the revolving drill by forcibly sliding the index drum and its shaft longitudinally until the index pin jumps into the middle groove. In this position the 14 central holes are drilled as before. To drill the last row of holes it is only necessary to move the index drum over as in the second case.

Where it is essential to drill holes accurately spaced around the periphery, this form of index drum and pin might not be accurate enough. However, in this case and in many other cases it is sufficiently accurate. It has the advantage* of being quickly indexed, which is not always true of the ordinary index pin that has to be grasped by one hand while the other hand is employed in rotating the fixture. In this case, the right hand is never moved from the drill spindle lever.

Indexing Jig provided with Work-locating Device. - The jig shown in Fig. 12 is for drilling differential spider arms. Before the drilling operation the forging is chucked and rough-